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A presentation slide with a dark green header and a teal background. The title "Course Objectives" is written in yellow at the top. Below the title is a horizontal bar with blue and white segments. The slide contains a bulleted list of four objectives. The slide is numbered "2" in the bottom left corner.

## Course Objectives

- What are Bloodborne Pathogens?
- Why are they harmful?
- What must I do to protect my workers?
- What is, and how do I write an Exposure Control Plan?

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## Disease

### PATHOGENS

- Parasite
- Bacteria
- Fungi
- Virus

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## Disease

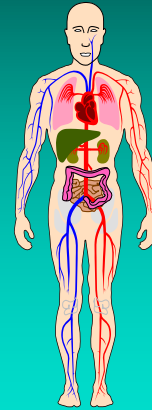
### TRANSMISSION

- Air
- Fecal/Foodborne
- Bloodborne

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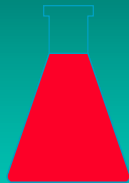
# What are Bloodborne Pathogens ?

- How are they harmful ?
- How are they contracted ?
- Some facts and figures

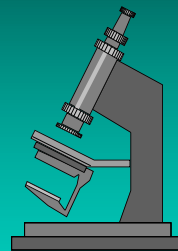


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## Definitions



Blood



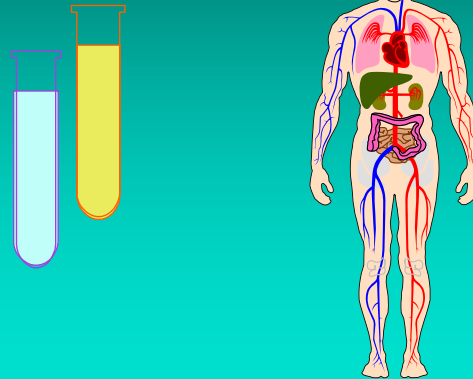
Bloodborne Pathogens

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## Definitions

Other potential infectious materials

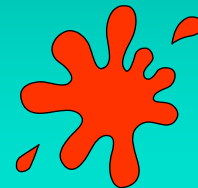
OPIM



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## Hepatitis B or C Virus

- Inflammation of the liver
- Causes liver damage ranging from mild to fatal
- Can live in a dry environment for at least 7 days



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## HBV -Hepatitis B

- Very infectious
  - 1/3 no symptoms, 1/3 flu-like, 1/3 severe
  - 6 to 10% of cases infectious for life (carrier state)
- In the past, 140,000-300,000 new infections per year
  - 5,000-6,000 deaths/yr from chronic liver disease
- Safe and effective vaccine is now available
  - Many HCW are not vaccinated

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## HCV - Hepatitis C

- Affects 4 times more people than HIV
- 4 million Americans infected
- Only 25% of those infected have been diagnosed
- In 1995, estimated 560-1120 cases among HCW in U.S.

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## HCV - Hepatitis C

- 85% of Hepatitis C infections persist for life
- 70% develop chronic liver disease
- Signs and symptoms may not appear until 10 years after infection
- Onset of symptoms may present with severe liver disease
- No broadly effective treatment
- No vaccine available

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## Human Immunodeficiency Virus (HIV)

- Attacks the human immune system
- Can live in a dry environment for only a few hours
- > 1 million infections in U.S.
- 56 documented cases among HCW;
- 138 cases of possible occupational transmission

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## AIDS

- AIDS = Acquired Immunodeficiency Syndrome
- Results from destruction of the human immune system from infection with HIV
- Some have no symptoms, or less severe symptoms
- No vaccine available yet

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## HBV & HIV Compared

	HBV	HIV
• HCW cases	400/yr.	56
• Risk of infection – Needle stick	6-30/100	1/300
• Vaccine available	Yes	No

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## Exposure Control Plan

*“To eliminate or minimize employee exposure”*

- Exposure determination
- Controls
  - Universal precautions (or equivalent system)
  - Engineering controls
  - Work practices
  - Personal protective equipment
  - Housekeeping



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## Exposure Control Plan

- Hepatitis B vaccination
- Post exposure evaluation & follow-up
- Communication and training
- Recordkeeping

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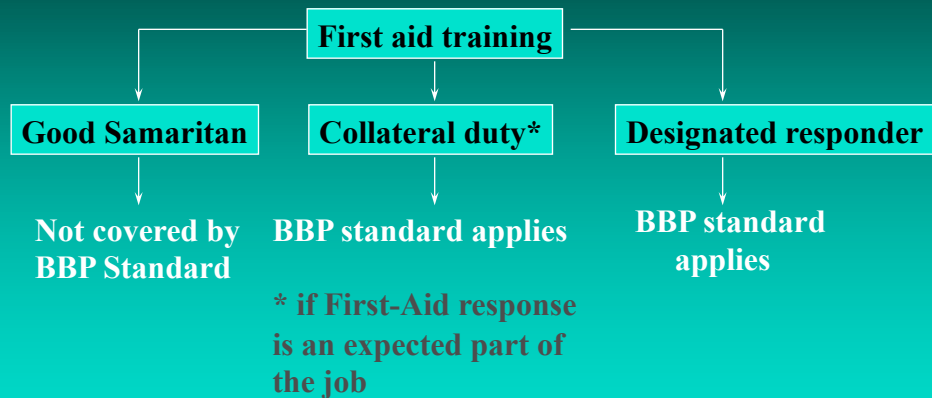
## Exposure Determination



- Do we have job classifications where ...
  - All employees are occupationally exposed?
    - » List the classifications
  - Some employees are occupationally exposed?
    - » List the classifications
    - » List the tasks with exposure
- Determine exposure without regard for PPE the worker uses

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## First Aid



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## Universal Precautions

Treat as if known to be infectious

Certain human  
body fluids



All human  
blood

All human body fluids if they can't be distinguished

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## Engineering Controls

- Isolate or remove the bloodborne pathogen hazard from the workplace
  - » A physical guard
  - » Barrier
  - » Environmental controls
  - » Other devices

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## Engineering Controls

- Annual evaluation and documentation
- Solicit input from patient care providers
- Implement commercially available, effective and appropriate devices
- Document justifications for not using safer devices

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## Physical Guard

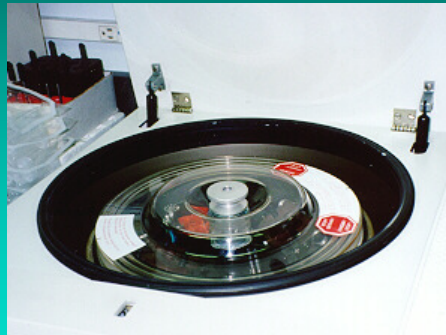
### Sharps disposal containers

- Closable
- Puncture resistant
- Leakproof
- Labeled



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## Barriers



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## Environmental Controls

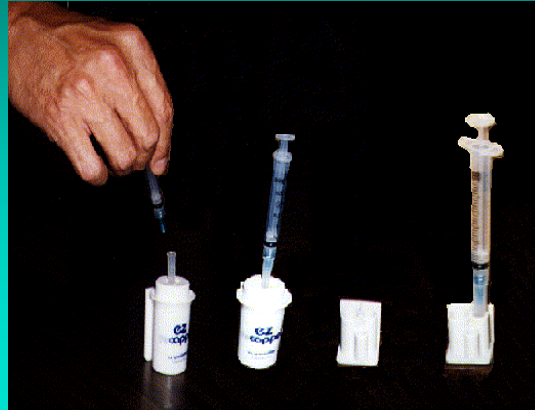
### Ventilation Hoods



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## Other Devices

- Avoid recapping
- Use Safer Sharp Devices
  - » needleless IV systems
  - » retractable syringes and lancets
  - » puncture-resistant capillary tubes



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## Work Practice Controls

### Safer steps to do the job!

- Prohibit two-handed needle recapping
- Do not bend, break or remove needles (incl. phlebotomy)
- Wash hands between glove use
- Flush body parts with water after contact with blood or OPIM
- Remove PPE before leaving work area

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## Examples of Work Practice Controls

Lab coat removal



Handwashing



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## Personal Protective Equipment PPE

**Provided at no cost to employee**

- »Gloves
- »Gowns
- »Face shields and/or masks
- »Eye protection
- »Resuscitation devices
- »Lab coats

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## Housekeeping

### Maintain a clean and sanitary workplace

- Written cleaning and decontamination schedule
- Contaminated waste disposal methods
- Laundry



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## Regulated Waste

- Blood or OPIM
  - » Liquid
  - » Semi-Liquid
  - » Contaminated sharps
  - » Lab or medical waste
- Other items caked with dried blood or OPIM

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## Regulated Waste Containers

- Easily accessible
- Leakproof
- Maintained upright
- Labeled or color coded
- Replaced routinely ( no overfill!!!)
- Disposal
  - » County or City Health Dept.. Regulations



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## Hepatitis B Vaccine

- 3 shot series
- Effective for 95% of adults
- Post-vaccination titers for high risk HCW
- Exposure without vaccination
  - » Immune globulin ASAP after exposure
  - » Begin Vaccination series



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## Hepatitis B Vaccination

- Make Hepatitis B vaccination available
  - » Declination statement required
  - » Available at later date if desired
- No cost to employees
- Reasonable time and place
- If series is interrupted, continue at any time rather than restart series

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## Exposure Incident

### Contact with blood or OPIM via:

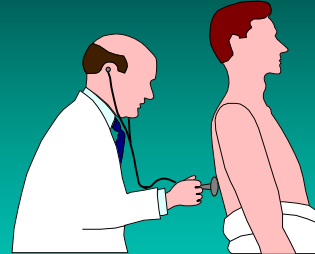
- Cuts, puncture, needle sticks
- Mucous membrane
- Eye
- Non-intact skin

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## Post Exposure Evaluation

### Employer Responsibility:

- Provide medical evaluation ASAP
  - » Testing for HBV, HCV, HIV
  - » HIV/HBV PEP when indicated
- Identify source individual, if possible
  - » Obtain consent for blood test
- Provide information to healthcare provider
  - » Routes of entry
  - » Employee's job duties
  - » Copy of the regulation



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## Post Exposure Evaluation

- Insure that the healthcare provider provides to exposed employee:
  - » Results of the source individuals test (if legal)
  - » Results of exposed employee's test
  - » Post exposure treatment as needed
- Provided at no cost to employee

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## Medical Evaluation and Follow-up

### Healthcare Provider's Responsibility:

- Provide in writing to employer:
  - » Employee has been informed of the results
  - » Employee has been informed of any medical conditions resulting from exposure
- All specific findings or diagnoses are confidential to employee

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## Communication

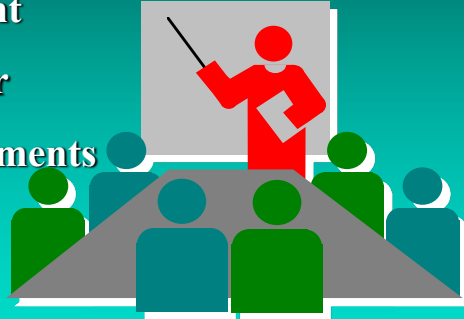
- Signs and labels
  - » Regulated waste
  - » Containers with blood or OPIM
  - » Laundry
  - » Biohazard symbol



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## Training

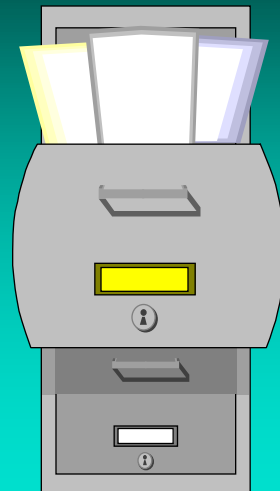
- **Provided to occupationally exposed employees:**
  - » At time of initial assignment
  - » At least annually thereafter
  - » Cover specific required elements
  - » Interactive
  - » Qualified trainers



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## Recordkeeping

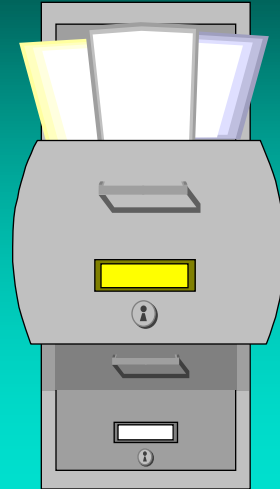
- **Medical records**
  - » HBV vaccination status
  - » Written medical opinion of exposure incidents
  - » Exposure incident details
  - » Maintain for length of employment + 30 years



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## Recordkeeping

- Training records
  - » Dates
  - » Content summary
  - » Trainer name & qualifications
  - » Attendee's names & job titles
  - » Maintain for 3 years



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## Sharps Log

- Maintain a separate sharps injury log
- Document sharps injuries on the OSHA 300
- Recorded as confidentiality case
- Must contain:
  - Type and brand of device involved
  - Department or work area where exposure occurred
  - An explanation of how the incident occurred

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## Plan Evaluation

- Review and/or update annually
- Whenever necessary to reflect changes that affect occupational exposure, including improved safety devices



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## Summary

- What Bloodborne Pathogens are
- Why they are Harmful
- Employer Responsibilities
- Written Exposure Control Plan



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